1. (Twice Amended) A pair of parent plants for producing seeds comprising:

(i) a first parent plant containing one or more gene sequences encoding a polypeptide A, and

(ii) a second parent plant containing one or more gene sequences encoding a polypeptide B;

wherein each of A and B, when expressed in a plant that expresses only one of A or B, is not an active enzyme, is not a regulatory protein and is not a protein which affects the functionality and/or viability and/or the structural integrity of a cell, but when expressed in a plant that expresses both A and B, A and B form an active enzyme, or a regulatory protein, or a protein which affects the structural integrity of a plant cell.

2. (Twice Amended) A pair of plants as claimed in claim 1, wherein the one or more gene sequences from at least one of the plants is a transgene.

3. (Amended) The pair of plants as claimed in claim 1, wherein the polypeptides A and B, when expressed in the same plant, cause cell ablation.

4. (Amended) The pair of parent plants as claimed in claim 1, wherein one of the parent plants is male-sterile.

5. (Amended) The pair of plants as claimed in claim 2, wherein the one or more gene sequences encoding polypeptides A or B, is operatively linked to a tissue specific promoter.

6. (Amended) The pair of plants as claimed in claim 1, wherein the polypeptides A and B are naturally occurring subunits of a protein complex of an active enzyme, regulatory protein, or protein which affects the structural integrity of a cell.

7. (Twice Amended) The pair of plants as claimed in claim 1 wherein the polypeptides A and B are two polypeptide subunits of an enzyme having RNase activity such as the enzyme Barnase or RNase A or the monomers of the protein complex of Apetala3-pistillata.

8. (Amended) The pair of plants as claimed in claim 1, wherein the polypeptides A and B are artificially split polypeptides of an active enzyme, regulatory protein or protein which affects the structural integrity of a cell.

9. (Amended) The pair of plants as claimed in claim 1, wherein each parent plant is homozygous with respect to the one or more gene sequences encoding polypeptide A or B respectively.

10. (Amended) The pair of plants as claimed in claim 3, wherein the cause of male-sterility is direct or indirect.

11. (Amended) The pair of plants as claimed in claim 5, wherein the tissue-specific promoter is a tapetum-specific promoter, an embryo-specific promoter or a seed specific promoter.

12. (Amended) The pair of plants as claimed in claim 1, wherein one or both of the polypeptides is fused to a carrier protein or a protein targeting signal.

13. (Amended) The pair of plants as claimed in claim 1, wherein each polypeptide A and B is linked to a protein dimerization

domain of a dimeric or multimeric protein that promotes association between A and B.

14. (Amended) The pair of plants as claimed in claim 1, wherein the one or more gene sequences from at least one of the parent plants is a heterologous gene sequence.

15. (Twice Amended) A method for producing a plant having a desired phenotype by virtue of an active enzyme, a regulatory protein or a protein which affects the structural integrity of a cell, the method comprising crossing a first plant with a second plant wherein the first plant contains one or more gene sequences encoding a polypeptide A but which plant does not have the desired phenotype and wherein the second plant contains one or more gene sequences encoding a polypeptide B but which plant does not have the desired phenotype, wherein each of A and B, when expressed in a plant that expresses only one of A or B, is not an active enzyme, is not a regulatory protein and is not a protein which affects the functionality and/or viability and/or the structural integrity of a cell, but when expressed in a plant that expresses both A and B, A and B form an active enzyme, a regulatory protein, or a protein which affects the structural integrity of a plant cell.

16. The method of claim 15, wherein the one or more gene sequences from at least one of the first and the second plant is a transgene.

17. (Amended) The method as claimed in claim 15, wherein the desired phenotype is cell ablation.

18. (Amended) The method as claimed in claim 15, wherein one of the first plant or the second plant is male-sterile.

19. (Amended) The method as claimed in claim 15, wherein the one or more gene sequences encoding A or B is operatively linked to a tissue-specific promoter.

20. (Amended) The method as claimed in claim 15, wherein the polypeptides A and B are naturally occurring subunits of an active enzyme, regulatory protein or protein which affects the structural integrity of a cell.

21. (Twice Amended) The method as claimed in claim 15 wherein the polypeptides A and B are two polypeptide subunits of an enzyme having RNase activity such as the enzyme Barnase, RNase A or the subunits of the protein Apetala3-pistillata.

22. (Amended) The method as claimed in claim 15, wherein the polypeptides A and B are artificially split polypeptides of an active enzyme, regulatory protein or protein which affects the structural integrity of a cell.

23. (Amended) The method as claimed in claim 15, wherein each of the first and second plants is homozygous with respect to the gene sequence encoding polypeptide A or B, respectively.

24. (Amended) The method as claimed in claim 15, wherein the desired phenotypic trait is direct or indirect male-sterility.

25. (Amended) The method as claimed in claim 15, wherein the tissue-specific promoter is a tapetum-specific promoter, an embryo-specific promoter or a seed specific promoter.

26. (Amended) The method as claimed in claim 15, wherein one or both of the polypeptides A and B is fused to a carrier protein or protein targeting signal.

27. (Amended) The method as claimed in claim 15, wherein each polypeptide A and B is linked to a different protein dimerisation domain of a dimeric or multimeric protein.

28. (Amended) The method as claimed in claim 15, wherein at least one of the first or second plants contains, as the one or more gene sequences, heterologous gene sequences.

29. (Amended) A seed obtained by crossing the pair of plants of claim 1, or a plant obtained from the seed, wherein the seed comprises the one or more gene sequences encoding polypeptide A and the one or more gene sequences encoding polypeptide B.

30. (Twice Amended) A seed or plant, having a phenotype by virtue of an active enzyme, a regulatory protein or a protein which affects the structural integrity of a cell, which is caused by the combined action of two or more transgenes, comprising a first transgene encoding a polypeptide A and a second transgene encoding a polypeptide B wherein each of A and B, when expressed in a plant that expresses only one of A or B, is not an active enzyme, is not a regulatory protein and is not a protein which affects the functionality and/or viability and/or the structural integrity of a cell, but when expressed in a plant that expresses both A and B, A and B form an active enzyme, a regulatory protein, or a protein which affects the structural integrity of a plant cell.

31. (Amended) A seed or progeny plant obtained from the plant of claim 29, wherein the seed or progeny plant comprises at least one of the one or more gene sequences encoding polypeptides A or B.

32. The pair of plants as claimed in claim 3, wherein the cell

ablation causes male-sterility.

33. The pair of plants as claimed in claim 3, wherein the cell ablation causes embryoless seeds.

34. The method as claimed in claim 17, wherein the cell ablation causes male sterility.

35. The method as claimed in claim 17, wherein the cell ablation causes embryoless seeds.

36. The plant as claimed in claim 29 which is male sterile.

37. (Amended) A seed or progeny plant obtained from the male sterile plant of claim 36, wherein the seed or progeny plant comprises at least one of the one or more gene sequences encoding polypeptides A or B.

38. (Amended) The seed or plant as claimed in claim 30, wherein the phenotype of the plant is male sterility.

39. (Amended) A seed or progeny plant obtained from the male sterile plant of claim 38, wherein the seed or progeny plant comprises at least one of the one or more gene sequences encoding polypeptides A or B.

Please add new claims 40-49 as follows:

40. (New) A pair of parent plants for producing seeds comprising:

(i) a first parent plant containing a gene sequence encoding a polypeptide A* comprising a methionine

codon followed by amino acids 1 to 35 or 1 to 36 of mature Barnase; and

(ii)a second parent plant containing a gene sequence encoding a polypeptide B* comprising a methionine codon followed by amino acids 37 to 110 of mature Barnase,

wherein each of A* and B*, when expressed in a plant that expresses only one of A* or B*, is not an active RNase enzyme, but when expressed in a plant that expresses both A* and B*, A* and B* form an active RNase enzyme.

41. (New) The pair of parent plants of claim 40 wherein one or both of the polypeptides A* or B* is fused to a carrier protein or a protein targeting signal.

42. (New) The pair of parent plants of claim 41 wherein said carrier protein or protein targeting signal is GUS.

43. (New) A method of producing a male sterile plant by virtue of an active RNase enzyme the method comprising crossing;

(i) a first parent plant containing a gene sequence encoding a polypeptide A* comprising a methionine codon followed by amino acids 1 to 35 or 1 to 36 of mature Barnase with

(ii) a second parent plant containing a gene sequence encoding a polypeptide B* comprising a methionine codon followed by amino acids 37 to 110 of mature Barnase,

wherein each of A* and B*, when expressed in a plant that expresses only one of A* or B*, is not an active RNase enzyme,

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but when expressed in a plant that expresses both A* and B*, A* and B* form an active RNase enzyme.

44. (New) The method of claim 43 wherein one or both of the polypeptides A* or B* is fused to a carrier protein or a protein targeting signal.

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45. (New) The method according to claim 44 wherein said carrier protein or protein targeting signal is GUS.

46. (New) A seed or plant obtained by a process comprising crossing the pair of parent plants as claimed in claim 40 wherein said seed or plant contains at least one of said one or more gene sequence encoding polypeptides A* or B*.

47. (New) The seed or plant of claim 46, said seed or plant having a phenotype by virtue of an active enzyme, a regulatory protein or a protein which affects the structural integrity of a cell, which phenotype is caused by the combined action of two or more transgenes that are not present on the same copy of a chromosome.

48. (New) The seed or plant obtained from the progeny plant produced by the method as claimed in claim 43 wherein said seed or plant contains at least one of said one or more gene sequence encoding polypeptides A* or B*.

49. (New) The seed obtained from the plant of claim 46 or 48.